Teaching With Technology

EDLD 5364

Week 2 - Reflection

There are a variety of strategies that can positively impact a diverse student learning population. This week we looked at readings and video clips to learn about effective ways to teach using technology to guide instruction for diverse learners.

It is important for teachers to establish instructional goals for students. Teachers want their students to be successful. We want to set measurable goals or objectives for our students. The purpose of setting goals and objectives is to ensure that learning is outlined clearly enough for the students. We want these goals and objectives to be attainable for the students and to meet the state required standards. These goals and objectives need to be clear, specific, and appropriate for assessment. Suggestions from the text:

* Set learning objectives that are specific but flexible.
* Allow students flexibility in personalizing the learning objectives or goals.
* Communicate the learning objectives or goals to students and parents.
* Contract with students to attain specific learning objectives or goals. (Pitler, 2007)

“Research shows that when students are allowed to set some of their own learning goals, their motivation is higher than when they pursue only teacher-set goals (Hom & Murphy, 1983) (Pitler, 2007)

Technology can be successfully utilized to support the goal setting process. Technology is a powerful tool when properly utilized can improve student learning and achievement. It gives teachers access to many resources that can not only help them in the classroom, but also give them help with meeting standards and objectives. Technology also helps teachers to be able to “access resources that can help them identify and refine standards and objectives.” (Pitler, 2007) “Teachers can use the following technologies to set objectives: word processing applications, organizing and brainstorming software, data collection tools, Web resources, and communication software.” (Pitler, 2007) The text gives us examples of using word processing applications. By utilizing word processing applications, teachers can use KWHL charts, draw tools, change their Word documents into Web pages, and setting up student learning contracts and goal sheets. There is organizing and brainstorming software available for teacher use to be utilized in the classroom. Software titles such as Kidspiraton (for grades preK-5) and Inspiration (for Intermediate and older students) and these tools provide easy ways for students to plan and organize their thoughts. This software helps provide organizing templates for students and provides a great step-by-step approach that provides a great way for students to organize their learning and to set goals. This software allows teachers and students to export an Inspiration documents as images into a graphic files and provides a snapshot of Inspiration file. This file can be kept or even emailed to parents. This is a great visual image and file of classroom work. Data collections tools such as survey Web sites are available for teacher us. Survey Monkey, Pollcat, Web Surveyor, and Profiler Pro are useful data collection tools to assist teachers with pre-assessment surveys, to identify student’s misconceptions, or to access student knowledge after completing a lesson. There are a number of Web resources available for teachers use. Teachers can download standards for their subject area to create objectives for their planning process. There are online sources that teachers can utilize for finding national education standards. They can also use the web for online communications between teachers, parents, and students. There are many sites available to teachers including the RubiStar’s Online Rubric Builder. Also teachers can use blogs for journal entries or posts to use for journal and informational purposes. Email can also be useful to teachers for communication purposes and to send newsletters to keep everyone current on what is happening in a teacher’s classroom.

It has also been found that technology integration strategies impact student motivation and self esteem. Classrooms are more diverse than ever before. Some students struggle to learn due to emotional and behavioral problems. There are ESL students in these classrooms that have difficulty understanding due to a language barrier. All of these student difficulties can result in student lack of interest. Teachers want all their students to succeed, but each student is unique and they realize that the one size fits all approach does not work for all students because every student has a different learning style. Teachers have to become creative in their teaching methods and find alternate methods of teaching. Technology integration not only improves student motivation and ultimately improves their self esteem. We find that everyone’s brain processes information differently. They have different methods of acquiring their knowledge and information. Technology integration provides learners with different methods of showing and illustrating that they can learn and know the information from the lessons.

Technology also positively impacts student learners in low-achieving, at-risk groups. “Increased levels of student-to-student interaction in computer learning environments appear to provide positive levels of student achievement. With regard to the subsequent effects computers may have on students with learning disabilities, when low-ability students are paired cooperatively with high-ability students in computerized interactive learning systems, the low-ability students spend longer percentages of time engaged in the learning process” (Brush, 1997). “Technology-enriched classrooms appeared to score significantly higher in achievement than their peers in the non-technology-enriched classrooms.” (Page, 2002) These students can take control of their own learning environment; can work in collaborative groups to complete tasks, and to place value in their ability to be creative and industrious students. Their overall self esteem increases as a result of being able to take charge of their own learning environment.

Technology impacts student achievement differently in various content areas. It also includes student performance on achievement tests. From the article “The Impact of Education Technology on Student Achievement: What the Most Current Research Has to Say.” (Schacter, 1999) the following information was found.

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| **Research Study** | **Findings** | **Positive / Negative Findings** |
| Kulik’s Meta-Analysis Study | Students who used computer-based instruction scored at the 64th percentile on tests of achievement compared to students in the control conditions without computers who scored at the 50th percentile | Positive Findings |
| Kulik’s Meta-Analysis Study | Students learn more in less time when they receive computer-based instruction | Positive Findings |
| Kulik’s Meta-Analysis Study | Students like their classes more and develop more positive attitudes when their classes include computer-based instruction. | Positive Findings |
| Kulik’s Meta-Anaysis Study | Computers did not have positive effects in every area in which they were studied | Negative Findings |
| Sivin-Kachala’s Review | Students in technology rich environments experienced positive effects on achievement in all major subject areas | Positive Findings |
| Sivin-Kachala’s Review | Students in technology rich environments showed increased achievement in preschool through higher education for both regular and special needs children | Positive Findings |
| Sivin-Kachala’s Review | Students’ attitudes toward learning and their own self-concept improved consistently when computers were used for instruction. | Positive Findings |
| ACOT | Acot experience appeared to result in new learning experiences requiring higher level reasoning and problem solving. | Positive Findings |
| ACOT | Acot did have an impact on teacher teaching practices toward more cooperative group work and less teacher stand-up lecturing. | Positive Findings |
| W. Virginia’s Basic Skills | Focused on spelling, vocabulary, reading & mathematics – Student test scores rose on the Stanford 9. | Positive Findings |
| Wenglinsky’s Study of Technology | 8th grade students who used technology showed gains in math scores of up to 15 weeks above grade level | Positive Findings |
| Wenglinsky’s Study of Technology | 8th grade students who used technology were positively related to students’ academic achievement in mathematics for both 4th and 8th grade students | Positive Findings |
| Wenglinsky’s Study of Technology | 4th grade students who used technology to play learning games and develop higher order thinking performed only 3 to 5 weeks ahead of students who did not use technology | Negative Findings |
| Overall, an analysis of technology utilization showed positive gains in achievement on researcher constructed tests, standardized tests, and national tests. (Schacter 1999) | | |

The UDL or Universal Design for Learning is the blueprint for the Center for Applied Special Technology (LessonBuilder, 2009) innovation to include all students regardless of abilities or disabilities. According to our lesson, brain-based research suggests that each individual learns differently and we as teachers need to design tasks to help students best understand the what, hows, and whys of learning. UDL is a philosophy that enables teachers to re-examine the critical components of education—like instructional materials, objectives, methods, assessments, and such to design rich lessons that incorporate multiple ways of gaining information and knowledge. Teaching with technology can positively impact diverse student learning when teachers select the right tools to support learning goals. According to Education in the Digital Age, “the materials and methods teachers use can either present students with barriers to understanding or enhance their opportunities to learn. By developing and applying UDL, we can minimize barriers and realize the promise each student brings to school.” (Rose, 2002) According to Donna Palley, Special Education Coordinator/ Technology for Concord, New Hampshire school system, “UDL is the intersection where all our initiatives, integrated units, multisensory teaching, multiple intelligences, differentiated instruction, use of computers in school, performance-based assessment, and others come together.(Rose 2002) “It is an integral component of improving student learning, compatible with other approaches to education reform.” (Rose, 2002)

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